~~Claims~~

1. ~~Method~~A method for welding metal sheets ~~(2, 3)~~ to form tailored blanks, characterized in that the edge line of both sheets is detected in the welding machine, the edge line of one of the sheets is identified as the dominant edge line and the other edge ~~(2', 1)~~ is reworked to match it to the dominant edge, and in that the sheets are then welded.

~~2. Apparatus according to Claim 1, characterized in that a sheet is discarded before reworking takes place, if the deviation of its edge from the dominant edge exceeds a predetermined amount.~~

~~3. Apparatus according to Claim 1 or Claim 2, characterized in that the edges are sensed by means of at least one sensor (6, 7) to determine the edge line.~~

~~4. Apparatus according to Claims 1 to 3, characterized in that the edge requiring reworking is machined by pressing.~~

~~5. Apparatus according to any one of Claims 1 to 4, characterized in that guidance of the welding beam is governed by, or is in part governed by, the detected dominant edge line.~~

6. ~~-~~An ~~A~~apparatus for welding metal sheets ~~(2, 3)~~ to form tailored blanks, characterized by at least one detection device ~~(6, 7, 9)~~ for detecting the edge line of the sheet edges ~~(2', 3')~~ to be welded, a control unit ~~(9)~~ for identifying one of the detected edges as the dominant edge and for transmitting control signals to at least one machining unit ~~(10)~~ arranged in the apparatus for machining the non-dominant edge.

7. ~~-~~An ~~A~~apparatus according to Claim 6, characterized in that the control unit is configured for the transmission of control signals to a discard unit whereby one of the sheets can be discarded from the apparatus before welding takes place.

~~8. Apparatus according to Claim 6 or Claim 7, characterized in that the detection device comprises at least one sensor (6, 7).~~

~~9. Apparatus according to any one of Claims 6 to 8, characterized in that the machining device comprises at least one pressing tool, in particular a roller (110).~~

~~10. Apparatus according to any one of Claims 6 to 9, characterized in that the control unit (9) forms the welding beam control or is configured for transmission of data to such a control.~~

11. (New) A method for welding a pair of metal sheets together along an edge of each metal sheet, comprising the steps of:

sensing the edge to be welded of each metal sheet;

determining a line for each of the edges to be welded;

selecting one of the edges to be welded as a dominant edge, and the other edge to be welded as a non-dominant edge;

reworking the non-dominant edge to substantially match the dominant edge;

welding the metal sheets together along the dominant edge and the non-dominant edge.

12. (New) The method of claim 11, further comprising the step of discarding the metal sheet with the non-dominant edge if the line determined for the non-dominant edge deviates more than a predetermined amount.

13. (New) The method of claim 11 wherein the step of reworking the non-dominant edge to substantially match the dominant edge includes machining the non-dominant edge.

14. (New) The method of claim 13, wherein the machining includes pressing with a pressing tool.

15. (New) The method of claim 11 wherein the step of welding the metal sheets together along the dominant edge and the non-dominant edge includes guiding a welding beam at least in part based upon the line of the dominant edge.

16. (New) A method for welding a pair of metal sheets together along an edge of each metal sheet, comprising the steps of:

determining a line for each of the edges to be welded using one or more sensors;

selecting one of the edges to be welded as a dominant edge, and the other edge to be welded as a non-dominant edge;

determining if a gap between the edges to be welded exceeds a predetermined amount;

replacing the metal sheet having the non-dominant edge with a replacement metal sheet;

determining a line for the edge of the replacement sheet to be welded and repeating the step of determining a gap and also the step of replacing the metal sheet having the non-dominant edge, if necessary, until the gap is equal to or less than the predetermined amount;

welding the metal sheets together along the dominant edge and the non-dominant edge.

17. (New) An apparatus for welding metal sheets together along an edge of each metal sheet comprising:

at least one detection device for detecting an edge line of each sheet;

a control unit for identifying a metal sheet edge to be welded as a dominant edge, and another metal sheet edge as a non-dominant edge, and

a means for reworking the non-dominant edge.

18. (New) The apparatus of claim 17, wherein the means for reworking the non-dominant edge includes at least one pressing tool.

19. (New) The apparatus of claim 17, wherein the control unit is capable of transmitting control signals to a discard unit to discard a metal sheet from the apparatus prior to welding.

20. (New) The apparatus of claim 17, wherein the control unit includes means for controlling a welding device.

21. (New) An apparatus for welding metal sheets together along an edge of each metal sheet comprising:

at least one detection device, including at least one sensor, for detecting an edge line of each sheet;

a discard unit for discarding a metal sheet from the apparatus prior to welding;

a means for welding the metal sheets together;

a control unit for identifying one of the metal sheet edges to be welded as a dominant edge and the other metal sheet edge to be welded as a non-dominant edge, wherein the control unit further includes means for transmitting control signals to the discard unit, and for transmitting data for use in controlling the means for welding; and

a means for reworking the non-dominant edge.